

Appl. No. 10/828,993
Reply to Examiner's Action dated 04/19/2006

AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-28 (Canceled)

29. (Currently Amended) A radio frequency (RF) component comprising:
a dielectric layer having opposing first and second major surfaces, the first surface being free from a semiconductor substrate, said dielectric layer having a plurality of openings extending between the first and second opposing major surfaces; and
a patterned conductive layer on the second major surface of said dielectric layer,
wherein the plurality of openings are arranged in a predetermined pattern having substantially uniform spacing between adjacent openings in a range of about 20 to about 200 μm and each opening has a diameter in a range of about .5 to 2.0 μm on opposing sides of the patterned conductive layer and through the RF component at least to the semiconductor substrate.

30-33 (Canceled)

34. (Currently Amended) A radio frequency (RF) component comprising:
a dielectric layer having opposing first and second major surfaces, the first surface being free from a semiconductor substrate, said dielectric layer having a plurality of openings extending between the first and second opposing major surfaces; and
a patterned conductive layer on the second major surface of said dielectric layer. The RF component of Claim 29 wherein each opening has respective rounded over edges adjacent the first and second major surfaces.

35. (Previously presented) The RF component of Claim 29 wherein the plurality of openings are laterally adjacent portions of the patterned conductive layer with no openings extending through the patterned conductive layer.

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REMARKS

The Applicant has carefully considered this application in connection with the Examiner's Action and respectfully requests reconsideration of this application in view of the foregoing amendments and the following remarks.

The Applicant has amended Claim 29 to cancel language introduced in the April 21, 2006 response that was objected to by the Examiner. Claim 29 is also amended to include the elements previously recited in Claims 30-33. Claim 34 is amended to independent form, by incorporating elements of Claim 29 as it originally appeared in the filed application.

The amendments are made to place the Claims in condition for allowance, or alternatively, to frame the issues for appeal. These amendments should not necessitate a new search or raise new issues because the subject matter incorporated into independent Claim 29 previously appeared in dependent Claims 30-33. Accordingly, Claims 29, 34-35 are currently pending in the application.

I. Rejection of Claims under 35 U.S.C. §102

The Examiner has rejected Claims 29 and 35 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent 5,853,601 to Krishaswamy, *et al.* ("Krishaswamy").

The Applicant maintains that Krishaswamy does not anticipate Claim 29 because this reference does not teach or suggest each element of the claimed invention, namely, a dielectric layer having a plurality of openings extending between the first and second opposing major surfaces, the plurality of openings arranged in a predetermined pattern having substantially uniform spacing

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between adjacent openings in a range of about 20 to about 200 μm and each opening has a diameter in a range of about .5 to 2.0 μm .

The Applicants disagree that Krishaswamy's discloses openings having a diameter as recited in Claim 29, as alleged by the Examiner, because Krishaswamy depicts the shape of his windows 113 in Figure 6 as long rectangular trenches that extend substantially the length of the substrate 10 (see Figure 6, of Krishaswamy). The Applicants submit that it is a non sequitur to refer to a rectangular trench as having a diameter. Moreover, Krishaswamy specifically rejects small openings because, among other things, Krishaswamy believes this to negatively impact the reproducibility of etching. (see Krishaswamy, Column 3, Lines 45-53).

The Applicants further submit that Krishaswamy fails to disclose a uniform spacing between adjacent openings, as recited in Claim 29, because Krishaswamy's windows 113 are not adjacent to each other. Rather, as illustrated and disclosed by Krishaswamy, the windows 113 are formed near first and second opposite ends of Krishaswamy's Film bulk acoustic resonator (FBAR) (see Krishaswamy, Figures 5D-5G and 6, and Column 5, Lines 50-53).

Moreover, there is no teaching or suggestion by Krishaswamy that the opening diameters and spacing, as recited in Claim 29, are simply process variables easily arrived at by routine experimentation. To the contrary, Krishaswamy teaches a very controlled etching process with an isotropic dry Reactive Ion Etch (RIE) using SF_6 for a etch time of 125 minutes performed in segments to prevent the photoresist etch mask from polymerizing (see Krishaswamy, Col. 3, lines 55-60, Col. 5, lines 59-67 and Col. 6, lines 1-10). The consideration that Krishaswamy places on his etching protocols indicates that via openings and spacings are not just routine process variables when manufacturing, e.g., the radio frequency (RF) components of the claimed invention.

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Therefore, because there is no showing that Krishaswamy discloses each and every element of the claimed invention, Krishaswamy is not an anticipating reference. Because Claim 35 is dependent upon Claim 29, Krishaswamy also cannot be an anticipating reference for this claim. Accordingly, the Applicant respectfully requests the Examiner to withdraw the §102 rejection with respect to Claims 29 and 35.

II. Rejection of Claim 32 under 35 U.S.C. §103

The Examiner has rejected Claim 32 under 35 U.S.C. §103(a) as being unpatentable over Krishaswamy. This rejection is rendered moot by the cancellation of Claim 32.

III. Allowable Subject Matter

The Examiner has indicated that dependent Claims 34 is allowable, if rewritten in independent form. In response the Applicant has so amended Claim 34. Accordingly, the Applicant respectfully requests the Examiner to pass Claim 34 to issue.

IV. Conclusion

In view of the foregoing amendment and remarks, the Applicant now sees all of the Claims currently pending in this application to be in condition for allowance and therefore earnestly solicits a timely Notice of Allowance for Claims 29, 34-35. It is not believed that any fees are due regarding this matter, however, the Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 08-2395.